

Serial No. 10/615,973

REMARKS

In the subject Office Action dated February 24, 2005, claims 1-8, 12, 13, 15 and 16 were examined on the merits. Applicants have amended claims 1, 7, 8, 12, 13. Previously pending claims 6, 16 are canceled. Previously withdrawn claims 9-11, 14 and 17-22 are canceled. Claims 2-5 and 15 remain pending. Applicants respectfully assert that all amendments are supported by the original disclosure and do not introduce new matter. Moreover, Applicants further respectfully assert that the amendments merely clarify the scope of the claims.

Applicants appreciate that the Examiner has pointed out that references US patents 5,673,840; 5,865,361 and 5,797,537 were referenced in the application but not disclosed in an IDS. In response thereto, Applicants have filed herewith a supplemental IDS.

Applicants further appreciate that the Examiner has pointed out an informality in the specification at Paragraph 5 and have amended the text to include the serial number for a referenced application.

Applicants have canceled claim 16 in response to a double patenting advisement that claims 13 and 16, if found allowable, would be objected to under 37 CFR 1.75 as being a substantial duplicate thereof.

Turning to independent claim 1, the claim as amended recites in part a gear train articulation mechanism that responds to a rotational motion to articulate an end effector in a plane from the longitudinal axis of the shaft. A spur gear is attached to the end effector and aligned in an arc proximal to and equidistant from a pivot axis of the pivotal coupling of the end effector. Thus, when a gear section presented about at least a portion of a distal end of the articulation drive tube communicates the rotational motion to the spur gear, the end effector pivots in a plane bisected by the longitudinal axis of an elongate shaft.

In the subject Office action, claim 1 was rejected under 35 U.S.C. 102(b) as being anticipated by Green et al (US 5,312,023). Dependent claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over Green in view of McGarry et al. (US 5,289,963). Dependent claim 6 was rejected under 35 U.S.C. 103(a) as being unpatentable over Green in view of Bolanos et al. (US

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5,575,799). Insofar as claim 1 is amended to include features of claims 4 and 6, the disclosures of these three references are considered.

Applicants wish to point out that the cited references fail to disclose a pivoting end effector that is articulated by having a drive tube engage a spur gear that arcs proximally about the pivot axis, thus resulting in an articulation movement in a plane bisected by the longitudinal axis of the shaft. Such an implementation provides design flexibility as to how an interior portion of the shaft and articulation joint are used to perform functions of support and firing motions, for instance. Moreover, the cited references either singularly or in combination fail to appreciate a desire to arc the end effector yet relegate these articulation motions to a periphery of the shaft and end effector.

Applicants respectfully suggest that U.S. Patent 5,312,023 Green et al. teaches that three mechanisms are included “for effecting distinctive movements of the fastener applying apparatus” and where the “third mechanism is operated through rotation of a control knob 718”. (Col. 23, lines 39-59) Green et al. goes on to teach that the mechanism “for effecting the independent rotation of the cartridge assembly 712.....includes proximal and distal planetary gear assemblies 782 and 784.....connected by transmission axle 786” and “proximal planetary gear assembly 782 is associated to the distal most control knob 718...” (FIGS 53, 54, Col. 26, lines 29-48). Thus, Green et al, ‘023 does not teach nor suggest the use of a gear train for articulation, rather the gear train is used as a portion of the third mechanism to effect rotation of the cartridge assembly 712 of the fastener applying mechanism 706 by rotation of control 718. Further, Bolanos discloses the use of a gear train to articulate an end effector in a conical path, and thus the mechanism of Bolanos cannot sweep the end effector from side to side as taught in the Green et al ‘023 patent. Therefore, it would not have been obvious for one skilled in the art to combine Green et al. with Bolanos et al. to obtain articulation in an arcuate side to side path as described in the applicants’ claims respectfully submitted above.

Consequently, reconsideration and allowance of claim 1 is respectfully requested, as well as for claims 2-5, and 8 that depend therefrom.

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Turning to independent claim 12, the claim as amended recites in part a spur gear on a pivot axis proximally attached to the end effector that is engaged to a gear section of an articulation drive tube to pivot the end effector in a plane from the longitudinal axis of the shaft.

Claim 12 was rejected under 35 U.S.C. 103(a) as being unpatentable over Green in view of Bolanos et al. (US 5,575,799). However, Bolanos describes a drive tube that engages a bevel gear 36. The cited references fail to produce the claimed invention with its articulation movement in a plane bisected by the shaft's longitudinal axis. In addition to the reasons given above for claim 1, reconsideration and allowance of claim 12 is respectfully requested, as well as for claim 15 that depends therefrom.

Applicants appreciate the indication that claims 7, 13 and 16 were directed to allowable subject matter. Claims 7 and 13 have been rewritten into independent form and are in condition for allowance.

Conclusion

In light of the amendments and remarks made herein, it is respectfully submitted that the claims currently pending in the present application are in form for allowance. Accordingly, reconsideration of those claims, as amended herein, is earnestly solicited. Applicants encourage the Examiner to contact their representative, David Franklin at (513) 651-6856 or dfranklin@fbtlaw.com.

A check is enclosed in the amount of \$200.00 to cover the cost of the fourth independent claim. The Commissioner for Patents is hereby authorized to charge any deficiency or credit any overpayment of fees to Frost Brown Todd LLC Deposit Account No. 06-2226.

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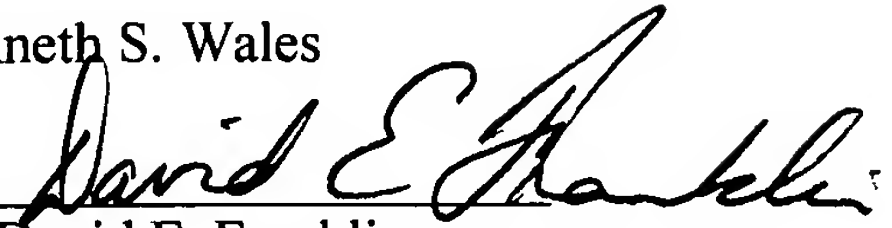
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Elizabeth A. Middleton
Elizabeth A. Middleton

Respectfully submitted,

Kenneth S. Wales

By



David E. Franklin

Registration No. 39,194

Attorney for Applicant(s)

FROST BROWN TODD LLC

2200 PNC Center

201 East Fifth Street

Cincinnati, Ohio 45202

(513) 651-6856

dfranklin@fbtlaw.com